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V8 protease. See *STAPHYLOCOCCUS AUREUS* V8 PROTEASE.

vaccine. A suspension of killed or attenuated viruses or subviral entities injected into vertebrates to produce active immunity.

vaccinia virus. Family *Poxviridae*, subfamily *Chordopoxvirinae*, genus *Orthopoxvirus*. Probably derived from cowpox virus, the first virus to be used as a vaccine, by Jesty in 1774 and Jenner in 1796. Introduction of the virus into the skin by scarification produces a local lesion in most cases but can cause generalised infection in people with impaired immune responsiveness. Long-lasting immunity is induced. The virus was the basis of a highly successful vaccine against smallpox. Similar local lesions are produced in calf, sheep, rabbit and guinea pigs. Virus grows in many cell culture systems and in eggs. The virus is now being used experimentally as a vector for genes expressing foreign protein antigens (e.g. rabies virus glycoprotein); this may enable the virus to be used as a vaccinating vehicle for various virus diseases.

vacuolating virus. A virus characterised by forming vacuoles in infected cells, e.g. species of *Polyomavirus*: SIMIAN VIRUS 40, RABBIT VACUOLATING VIRUS.

Vagoiavirus. Former name for ENTOMOPOXVIRUS (after C. Vago).

varicella zoster virus. Synonyms: CHICKENPOX VIRUS, HUMAN HERPESVIRUS 3. Family *Herpesviridae*, subfamily *Alphaherpesvirinae*, genus *Alpha herpesvirus* 3. Causes chickenpox, usually in the young, sometimes with encephalitis, on primary infections. Reactivation causes herpes zoster, a painful local condition with skin lesions. Virus can be grown in HeLa cells and monkey kidney cell lines but there is no animal model.

variola ovina virus. See SHEEP CAPRIPOX VIRUS.

variola suilla virus. See SWINEPOX VIRUS.

variola virus. Family *Poxviridae*, subfamily *Chordopoxvirinae*, genus *Orthopoxvirus*. Causative agent of smallpox, which was a severe and often fatal disease of man, involving an extensive rash, fever and prostration. The World Health Organisation eradicated the disease from the world in 1977 by a well-organised vaccination campaign. This was the first human infectious disease to be so eradicated. Two main types were recognised: variola major virus, which occurred in Asia and the Middle and Far East, caused a high level of mortality; variola minor virus (synonyms: ALASTRIM VIRUS, AMAAS VIRUS, KAFFIR POX VIRUS) which occurred in South America and West Africa, caused lower mortality. Both viruses produced pocks in the chorioallantoic membrane and killed chick embryos. The virus multiplied readily in suckling mice.

vector. This word has two meanings: a) in molecular biology it is a self-replicating DNA molecule into which fragments of DNA can be cloned. Most vectors are derived from bacterial plasmids or from viruses. A vector should contain one or more unique restriction endonuclease(s) site(s) and one or more selectable feature(s), e.g. antibiotic resistance, distinct plaque formation; b) in virus transmission it is the organism which transmits a virus from the infected to the uninfected host. See TRANSMISSION.

VEE virus. Abbreviation for VENEZUELAN EQUINE ENCEPHALOMYELITIS VIRUS.

vegetative cycle. See LYtic CYCLE.

Vellore virus. Family *Togaviridae*, genus *Alphavirus*. Isolated from mosquitoes in Vellore, India.